What we claim is:

1. A wireless communication system having a plurality of base stations, for communication with one or more mobile appliances, and a network overlay geo-location system having a plurality of wireless location sensors for providing location measurements, the improvement comprising, wherein one or more of the plurality of wireless location sensors are geographically separated from one or more of the plurality of base stations served by the one or more wireless location sensors.

2. The wireless communication system of Claim 1, wherein the plurality of base stations is greater than the plurality of wireless location sensors.

3. In a geographic area served by a wireless communication system having a sparse network overlay geo-location system in which a primary wireless location sensor associated with a serving base station provides information about a signal received from a mobile appliance to another wireless location sensor as to enable the another wireless location sensors to measure an attribute of the signal, a method of locating the mobile appliance independently from the primary wireless location sensor comprising:

performing ambiguity function processing using known data sequences in the signal and the signal received at the another wireless location sensor;

measuring an attribute of the signal at the another wireless location sensor; and,

estimating the location of the mobile based at least in part by measured attribute.

4. In a wireless communication system having a base station in communication with a mobile appliance a method of determining the location of the mobile appliance comprising

providing a plurality of wireless location sensors geographically separated from said base station; and,

independently configuring the plurality of wireless location sensors to provide a coverage area substantially similar to a coverage area of the wireless communication system.

5. The method of Claim 4, wherein one or more of the plurality of wireless location sensors are positioned at high elevations.

6. In a wireless communication system having a sparse deployment of wireless location sensors wherein one or more base stations of the wireless communication system are not associated with a co-located wireless location sensor; a method of detecting and measuring an attribute of a target signal independently of a WLS co-located at the serving base station comprising:

receiving the target signal in one or more neighboring WLS; and,

performing ambiguity function processing using known data sequences in the target signal and the received target signal.

7. The method of Claim 6, further comprising retrieving the known data sequences in the target signal from an Abis monitoring unit.

8. The method of Claim 6, wherein the known data sequences are predetermined training sequences.

9. In a wireless communication system having a sparse deployment of wireless location sensors wherein one or more base stations of the wireless communication system are not associated with a co-located wireless location sensor; a method for estimating location a mobile appliance in a sparse WLS deployment system wherein the number of WLS detecting and measuring an attribute of a signal of the mobile appliance is less than a predetermined number necessary for estimating a location, comprising:

selecting one or more location surfaces determined as a function of one or more in the group comprising a timing advance of the signal, a relationship between the transmitted power of the signal and the received power of the signal, the speed of the mobile appliance and, a second signal transmitted to the mobile appliance in a frequency band different from the signal, and EOTD data; and,

estimating the location of the mobile appliance based on the measured attribute of the signal and the one or more location surfaces.

10. The method of Claim 9, wherein the location surface determined as a function of the speed of the mobile appliance is defined by a high speed highway.

11. The method of Claim 10, wherein the speed of the mobile appliance is determined by differential Doppler.

12. The method of Claim 9, wherein the transmitted power of the signal is provided by an Abis monitoring unit.

13. The method of Claim 9, wherein a propagation range of the second signal is greater than a propagation range of the signal.

14. The method of Claim 9, wherein the EOTD data is provided by an Abis monitoring unit.

15. The method of Claim 9, wherein the selection is based on a predetermined criteria.

16. The method of Claim 9, wherein the selection is based on a predetermined.

17. In a wireless communication system having a sparse deployment of wireless location sensors wherein one or more base stations of the wireless communication system are not associated with a co-located wireless location sensor and wherein a geographic area served by the wireless communication system has a no location area, a method of determining the location of a mobile appliance comprising:

determining if the mobile appliance is in the no location area, and;

using enhanced observed time difference EOTD to estimate the location of the mobile appliance.

18. The method of Claim 17, wherein data for EOTD is provided by an Abis monitoring unit.

19. In a wireless communication system having a sparse deployment of wireless location sensors wherein one or more base stations of the wireless communication system are not associated with a co-located wireless location sensor; a method for estimating location a mobile appliance in a sparse WLS deployment system wherein the number of WLS detecting and measuring an attribute of a signal of the mobile appliance is less than a predetermined number necessary for estimating a location, comprising:

obtaining a set of candidate measurement data selected from the group of signal strength, timing advance, cell site hearability, sector hearablility, adjacent cell site power measurements, multi-path signature and TOA measurements;

comparing the set of candidate measurement data with a set of predetermined measurement data; and,

determining the location of the mobile appliance based on the comparison.

20. The method of Claim 19, wherein the multi-path signature is a function of one or more of the group comprising power, delay, frequency and angle.

21. The method of Claim 19, wherein the predetermined measurement data is empirical data.

22. The method of Claim 19, wherein the predetermined measurement data is based on theoretical propagation data.

23. In a wireless communication system having a set of base stations for communication with a mobile appliance, the set of base stations having a first subset of base stations having co-located wireless location sensors and second subset of base stations without a co-located wireless location sensor, a method of locating a mobile appliance served by one base station in the set of base stations comprising:

receiving a location request;

determining the subset of the one base station;

if the one base station is a member of the first subset;

receiving a signal from the mobile appliance at a primary wireless location sensor co-located with the one base station;

distributing information bits associated with the signal from the mobile appliances to secondary wireless location sensors to assist in acquiring the signal from the mobile appliance;

measuring an attribute of the signal at the primary and secondary wireless location sensors; and,

determining a location for the mobile appliance based at least in part on the measured attributes;

if the one base station is a member of the second sub set;

selecting one or more steps from the group comprising;

performing ambiguity function at the secondary wireless location sensors on known data sequences in the signal to detect signal and measure an attribute of the signal,

extracting the timing advance and determine a surface based on the timing advance;

retrieving power measurements at the mobile appliance of adjacent cell from the Abis monitoring unit and form location surfaces from the power measurements;

performing pattern matching to compare sets of measurement data with sets of predetermined data;

performing pseudo-range measurements from timing signals transmitted in RF bands from the forward link transmission, wherein the RF bands are not the same as the signal and;

using differential Doppler techniques, and fading envelope detection techniques enabling known roadways to be used as surfaces of position for location; and

determining the location of the mobile appliance based at least in part on the one or more steps.